

REMARKS

Claim 1, 2, 4-6, 8, 9, and 11 are pending in this application. By this Reply, claims 1, 5, and 9 are amended and claims 3, 7, and 10 are cancelled. Reconsideration and withdrawal of the rejections are respectfully requested in view of the following remarks.

Entry of the amended claims is proper under 37 C.F.R. §1.116 since the amendments: (1) place the application in condition for allowance (for the reasons discussed herein); (2) do not raise any new issues requiring further search and/or consideration (since the amendments amplify issues previously discussed throughout prosecution without incorporating additional subject matter); (3) satisfy a requirement of form asserted in the previous Office Action; and/or (4) place the application in better form for appeal (if necessary). Entry is thus requested.

Section 102 Rejections

Claims 9 and 10 stand rejected under 35 U.S.C. § 102(b) over Fillot (U.S. patent No. 4,317,010). This rejection is respectfully traversed.

To anticipate a claim, a reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter. See PPG Indus., Inc. v. Guardian Indus. Corp., 75 F.3d 1558, 1566, 37 U.S.P.Q.2d (BNA) 1618, 1624 (Fed. Cir. 1996). Fillot fails to disclose all of the claimed elements, as required by Section 102. For example, Fillot fails to disclose at least combining a monitoring signal of a predetermined level with an RF signal, transmitting the combined monitoring and RF signals to a slave repeater, separating the transmitted monitoring signal from the transmitted RF signal at the slave repeater, comparing, at the slave repeater, a level of the transmitted monitoring signal

with the predetermined level, wherein the monitoring signal of a predetermined level comprises a modulated MODEM signal, and adjusting a gain applied to the transmitted RF signal by using the comparison to calculate the gain adjustment, as recited in amended claim 9.

Each of the claimed features will be addressed *seriatim*. First, the Patent Office asserts that Fillot discloses combining a monitoring signal of a predetermined level with an RF signal, and cites to column 3, lines 46-48 to support this proposition. This portion of Fillot, however, fails to disclose such a feature. For example, Fillot there recites that "a gain regulating circuit generally comprises a bandpass filter which samples a pilot signal at the output of amplification circuit. The pilot signal is amplified... ." Within that portion of text, there is no disclosure of combining a monitoring signal of a predetermined level with an RF signal.

The Patent Office further appears to draw upon the abstract of the invention to support the assertion of disclosure of this feature. Although the abstract discloses that a monitoring station transmits control signals that can be mixed with data signals, there is no specific disclosure of combining the particular signals recited in the claim, *to wit*, a monitoring signal of a predetermined level and an RF signal. Applicant notes that the predetermined level is recited in a later portion of the claim to provide for the appropriate comparison.

Next, the Patent Office asserts that Fillot discloses transmitting the combined monitoring and RF signals to a slave repeater, and cites Fillot, column 3, lines 25-27. This portion of Fillot, however, fails to disclose the claimed feature. For example, Fillot there discloses that automatic gain regulation is required to correct attenuation of data which is

caused by each section of a line. Moreover, Fillot additionally discloses that a gain of an intermediate amplification circuit can be modified using the pilot signal, which is transmitted continuously. There is thus no specific disclosure of transmitting the claimed combination of monitoring and RF signals.

The Patent Office next asserts that Fillot discloses separating the transmitted monitoring signal from the transmitted RF signal at the slave repeater, and directs Applicants attention to column 3, lines 46-49. Even assuming that the claimed signals were disclosed by Fillot, the asserted portion of Fillot, as discussed above, discloses only that a gain regulating circuit includes a bandpass filter that samples a pilot signal at the output of the amplification circuit, and that the pilot signal is amplified and rectified, and compared with a reference voltage. There is no disclosure of the pilot signal having been combined with any other signal, and there is no specific disclosure of separating the pilot signal from another signal. Consequently, there is no disclosure of separating the claimed monitoring signal from the RF signal at the slave repeater.

Additionally, the Patent Office asserts that Fillot discloses comparing, at the slave repeater, a level of the transmitted monitoring signal with the predetermined level. The Patent Office cites column 3, lines 25-27 to support this assertion. As discussed above, this portion of Fillot relates to using automatic gain regulation to correct an attenuation of data. Moreover, although not asserted by the Patent Office, Fillot, column 3, lines 46-49, also fails to support the Patent Office's the assertion. For example, although that portion of Fillot discloses comparing an amplified and rectified pilot signal with a reference voltage, there is no specific disclosure that the reference voltage disclosed by Fillot is a predetermined level of

the monitoring signal that was previously transmitted or that it is a modulated modern signal. Rather, it is simply disclosed to be "a reference voltage." Moreover, there is no disclosure that the Fillot pilot signal had been combined with, transmitted with, and separated from the RF signal that is to be adjusted according to the comparison.

Moreover, Fillot discloses that the pilot signal is first amplified before it is compared to the reference signal. Accordingly, there is no comparison of the actual received pilot signal to the reference signal. Hence, the determination of the comparison between the amplified pilot signal and the reference signal cannot, by itself, provide a calculation of gain adjustment to be applied to the RF signal.

Because there is no specific disclosure in Fillot of the claimed features, it is respectfully submitted that Fillot fails to anticipate under Section 102.

Moreover, to the extent that the Patent Office relies upon the doctrine of inherency to support its position that Fillot discloses all of the claimed features, it is respectfully submitted that the claimed features, which are not expressly disclosed by Fillot, are also not inherent in Fillot. For example, as recently stated by the Court of Appeals for the Federal Circuit in Rosco, Inc. v. Mirror Lite Co., 304 F.3d 1373, 64 U.S.P.Q.2d (BNA) 1676 (Fed. Cir. 2002),

[u]nder the doctrine of inherency, if an element is not expressly disclosed in a prior art reference, the reference will still be deemed to anticipate a subsequent claim if the missing element "is *necessarily present* in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Cont'l Can Co. v. Monsanto Co., 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991). "Inherent anticipation requires that the missing descriptive material is 'necessarily present,' *not merely probably or possibly present*, in the prior art." Trintec Indus., Inc. v. Top U.S.A. Corp., 295

F.3d 1292, 1295, 63 U.S.P.Q.2d 1597, 1599 (Fed. Cir. 2002) (quoting In re Robertson, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950 51 (Fed. Cir. 1999)).

It is respectfully submitted that the claimed features are not necessarily present in Fillot. For example, a pilot signal is not necessarily a monitoring signal of a predetermined level, and is not necessarily combined with an RF signal. Next, the combined signal is not necessarily transmitted to a slave repeater, and is likewise not necessarily separated at the slave repeater. Moreover, the Fillot reference voltage, which is not described in detail, is not necessarily the same voltage as the initially transmitted pilot signal.

Because the claimed features are not necessarily present in Fillot, they cannot be inherent in Fillot. Accordingly, for this additional reason, it is respectfully submitted that Fillot fails to disclose all of the claimed features.

For at least the reasons discussed above, it is respectfully submitted that claim 9 is allowable over Fillot. Because the features of claim 10 have been incorporated into claim 9, claim 10 has been cancelled. Withdrawal of this rejection is thus respectfully requested.

Section 103 rejections

Claims 1-3, 5-7, and 11 stand rejected under 35 U.S.C. § 103(a) over Okubo et al. (U.S. patent number of 5,689,355) (hereinafter Okubo) in view of Fillot. This rejection is respectfully traversed.

The asserted combination of references fails to establish a prima facie case of obviousness, as required by Section 103. For example, claim 9 is discussed above, and the asserted combination of references fails to teach or suggest all of the claimed features.

Additionally, the asserted combination of references fails to teach or suggest at least mixing from a master repeater a modulated MODEM signal of a predetermined level with a RF signal and transmitting the mixed signal through an optical cable, detecting at a slave repeater a modulated MODEM signal level from the mixed signal transmitted by the master repeater, comparing, at the slave repeater, the detected modulated MODEM signal level with a reference level and obtaining a difference between the levels, wherein the reference level is the predetermined level unless the master repeater transmits a control signal of a base station, and adjusting a gain of an amplifier for the RF signal in the slave repeater by using the obtained difference to calculate the gain adjustment, as recited in claim 1.

Moreover, the asserted combination of references fails to teach or suggest at least transmitting from a base station a first RF signal, amplifying the first RF signal by a constant level through an amplifier of a master repeater, mixing a first modulated MODEM signal of a predetermined level with the first amplified RF signal and transmitting the mixed signal through an optical cable to a slave repeater, receiving and separating the mixed signal into a second modulated MODEM signal and a second RF signal, and detecting a modulated MODEM signal level from the second modulated MODEM signal, comparing, at the slave repeater, the detected modulated MODEM signal level with a reference level and obtaining a difference between the levels, wherein the reference level is the predetermined level unless the master repeater transmits a control signal of a base station, controlling a gain of an amplifier for the RF signal in the slave repeater based upon said obtained difference, and amplifying the second RF signal according to the controlled gain and transmitting the second amplified RF signal to terminal, as recited in claim 5.

Okubo is directed to a repeater system in which an RF signal sent to a slave device is detected and compared to a stored reference value. The difference between the detected RF signal and the stored reference value is used to retrieve a gain correcting value from memory. The retrieved gain correcting value is used to adjust a gain of a variable gain amplifier.

With respect to gain control taught by Okubo, Okubo teaches that a predetermined gain correcting value is prestored. Accordingly, Okubo teaches that the loss in the optical cable is estimated using the gain correcting value. Accordingly, there is no measurement of actual loss from which the correction is calculated. That is, the received signal is not compared to the actual transmitted signal. Rather, it is compared to a prestored value that approximates the transmitted value. See column 6, lines 52-54. Moreover, this aspect of Okubo is admitted by the Patent Office. See Office Action dated September 17, 2002, page 2, numbered paragraph 3.

Thus, Okubo teaches that a reference value is determined based on a DC current value when the length of the optical cable is 0 m. Using this value, an estimate is taken as to signal loss during transmission of a different signal. Specifically, a current value of a transmitted input signal is detected. The loss of the optical cable is then estimated using the predetermined reference value, which is the known DC current value. Accordingly, the estimate is not based upon an actual transmission level of the received signal. Rather, it is based upon a pre-calibrated value. Moreover, the DC current value and the gain correcting value are prestored in the control circuit upon its calibration. See column 6, lines 56-59. Moreover, the loss determined by Okubo is based upon a measurement of the signal to be corrected and not upon a second signal transmitted with the signal to be corrected.

Additionally, the Patent Office admits that Okubo does not teach mixing a modulated modem signal of a predetermined level with the RF signal in the master repeater, detecting a modulated modem signal in the slave repeater and comparing its level in the slave repeater with said predetermined level to obtain the difference.

Fillot, either alone or in combination with Okubo, fails to teach or suggest the above described features which are neither taught nor suggested by Okubo alone.

For example, Fillot is described above. As discussed, Fillot, either alone or in combination with Okubo, fails to teach or suggest at least mixing the claimed signals and transmitting the mixed signals through an optical cable, comparing the detected modulated modem signal level with a reference value to obtain a difference and adjusting the gain of an RF signal (which is not the signal from which the difference is obtained) based on the difference. Rather, Fillot teaches comparing an amplified pilot signal with a reference value, and fails to teach or suggest correcting a different signal based on the comparison.

Accordingly, the asserted combination of references fails to teach or suggest all of the features of independent claims 1 and 5. Claims 2 and 3 depend from claim 1 and claims 6 and 7 depend from claim 5, and are allowable for at least the reasons discussed above. Moreover, claim 11 depends from claim 9 and is also allowable for at least the reasons discussed above. It is therefore respectfully requested that this rejection be withdrawn.

Claims 4 and 8 stand rejected under 35 U.S.C. § 103(a) over Okubo in view of Fillot, and further in view of Kobayashi et al. (U.S. patent number 4,607,656) (hereinafter Kobayashi). This rejection is respectfully traversed.

The asserted combination of references fails to establish a prima facie case of obviousness, as required by Section 103. For example, claim 4 depends from claim 1 and claim 8 depends from 5. Claims 1 and 5 are discussed above with respect to the combination of Okubo and Fillot. As discussed above, the combination of Okubo and Fillot fails to teach or suggest all of the claimed features. Moreover, Kobayashi, either alone or in combination with Okubo and Fillot, fails to teach or suggest all the claimed features. For example, Kobayashi relates to information transmission system having processors coupled by respective modems to a communication medium. Kobayashi, however, fails to teach or suggest the features that are neither taught nor suggested by the combination of Okubo and Fillot. Moreover, the Patent Office does not rely upon Kobayashi to teach these features.

For example, Kobayashi teaches that a level of attenuation of a reception line is calculated, and that this value is assumed to be the attenuation level of a transmission line. A gain of the transmitting amplifier is accordingly adjusted based on the attenuation of the reception line. See column 5, lines 31-49. Consequently, Kobayashi, either alone or in combination with Okubo and Fillot, fails to teach or suggest all the claimed features. Accordingly, a prima facie case of obviousness cannot be made, and it is respectfully requested that this rejection be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is

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invited to contact the undersigned attorney, Anthony H. Nourse, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
FLESHNER & KIM, LLP

A handwritten signature in black ink, appearing to read "Daniel Y.J. Kim", written over the printed name.

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